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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,092

01/17/2006

Bernhard Mussig

101769-302-WCG

1958

27386

7590

04/03/2009

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EXAMINER

KOKKINOS, NICHOLAS C

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,092	Applicant(s) MUSSIG ET AL.	
	Examiner NICHOLAS KOKKINOS	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 11-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 14 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20050412, 20050513, 20050520, 20050607</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I in the reply filed on 17 February 2009 is acknowledged. The election appears to contain a minor typographical error. Applicant elected claims 1-11 and 14, but Group I only includes claims 1-10 and 14; claim 11 is to a process for producing (Group II).
2. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
3. Claims 11-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 17 February 2009.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Abstract

5. The abstract of the disclosure (submitted as a separate page, begins with "Halogen-free") is objected to because it is not a complete sentence and is only 28 words long. Correction is required. See MPEP § 608.01(b).

Claim Objections

6. Claim 14 is objected to because of the following informalities: the word "compris s" should be spelled "comprises," and the word "s aling" should be "sealing." Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 1 is unclear because it recites "the fraction of flame retardant." This limitation lacks antecedent basis, because the flame retardant has not been previously recited. Claim 8 also lacks antecedent basis in similar fashion by reciting "the flame-retardant filler."

10. Claim 7 is confusing and unclear because it seems to indicate that the winding film of claim 1 comprises a solvent-free pressure sensitive adhesive, when the film of

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claim 1 comprises no such thing. If claim 7 is intended to be further limiting, it should read something like "The winding film of claim 1, further comprising..."

11. Claims 2, 3, and 6 contain the phrase "and/or." This makes the claims indefinite because it is unclear which limitations are included in the claimed inventions.

12. Claim 14 provides for the use of the winding film of claim 1 by reciting a method for bundling, protecting, labeling, insulating, or sealing, but, since the claim does not set forth any steps involved in the method/process (*it simply repeats the preamble*), it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 1-8, 10, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,355,344 to Mamish et al. in view of USPN 6,200,679 to Hase et al.

17. Regarding claim 1, Mamish et al. teaches a winding film (*title*) that has a polypropylene copolymer (*column 3, lines 50-58*) and a thickness of less than 8 mils ($203.2\ \mu\text{m}$), which anticipates applicant's claimed range of 30-180 μm .

18. Mamish et al. does not explicitly disclose the material strengths claimed by applicant, only specifying that the tape exhibits a tensile strength of 10-40 lbs/inch ($17.44\text{-}69.76\ \text{N/cm}$, *column 5, line 12*). This overlaps applicant's claimed range, but it is not exactly the same test performed by applicant, because it is the tensile force close to failure (likely 200%-300% elongation), not at 100% elongation. Mamish et al. also discloses that the film should have mechanical properties such that it can be torn by hand, rolled, and applied with relative ease, just as prior art PVC-based films were (*column 1, lines 40-65*). Applicant's disclosure reiterates this goal (*page 7, lines 20-26*).

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Further evidence of similar performance to the film of Mamish et al. is found in claim 6, in which applicant's unwind force is anticipated by Mamish et al. (*see below rejection of claim 8*).

19. Although applicant's claimed mechanical properties are not anticipated per se by Mamish et al., they would have been rendered obvious to one of ordinary skill in the art at the time of invention because they are expected to be present in harness tapes that are easy to roll, unwind, hand tear, and apply to wiring.

20. Mamish et al. also does not teach that the crystallite melting point of the polypropylene copolymer is less than 166°C. Hase et al. teaches that for cable coatings, the polypropylene (*polyolefin*) - rubber compound should have a melting point of at least 130°C, and that at least 25% of the polyolefin compound should be crystalline (*column 2, lines 51-62*). Because only crystalline polymers can actually melt (*amorphous sections simply soften and do not undergo a phase change*), this range overlaps that of applicant.

21. The disclosure of Hase et al. is analogous art to Mamish et al. because it addresses the same problem, namely, the need for better electrical coatings that retain the superior performance characteristics of older, but toxic and now unsuitable, PVC-based coatings (*column 1, lines 16-34, 44-55*). This disclosure of the proper melting is also compatible with the service demands of Mamish et al., which notes that service temperatures should be at least 105°C (*column 6, lines 19-20*) for some applications. It would have therefore been obvious to one of ordinary skill in the art at the time of invention to modify the wire harness of Mamish et al. with the polypropylene of the

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melting point disclosed by Hase et al. in order to satisfy the demands of high service temperatures and easy handling.

22. Mamish et al. does not teach the addition of 40 phr (*parts by weight per 100 parts by weight of polymer, per applicant's specification*) of flame retardant, only teaching approximately 25 phr (*see plastic film table, column 9, the Antimony Oxide and Decabromodiphenyl oxide are flame retardants*). Hase et al. teach that for a formulation with 100 parts by weight of polymeric material, there should be 30-200 parts by weight of metal hydroxide type flame retardant (*column 2, lines 49-59*). This overlaps claimed amount. Hase et al. point out that this amount is optimized to provide maximum flame protection, while not deteriorating the above mentioned formability and handling characteristics that are important for the wire harness (*column 4, lines 55-61*). It would have been obvious to one of ordinary skill in the art to modify the composition of Mamish et al. by adding flame retardants in the amount specified by Hase et al. so that the handling properties are not deteriorated, but the films are highly flame resistant.

23. Regarding claim 2, the thickness of the film of Mamish et al. overlaps the claimed range (*see above*). Since handling characteristics, materials, and structure are the same, the film would also be expected to exhibit forces at 1% and 100% that are the same as those claimed.

24. Regarding claim 3, since the film of Mamish et al. in view of Hase et al. has the same materials, structure, and mechanical performance otherwise, it would be expected to have a flexural modulus of less than 500 MPa, as claimed. Further, as above, the

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melting point of the crystallite melting point is at least 130°C, which overlaps applicant's claimed range.

25. Regarding claim 4, Mamish et al. teaches that the polypropylenes may be further combined with polyethylenes to form the temperature modifier polymer (*column 6, lines 10-13*). Note that this limitation is a product by process limitation; the steps of reacting the polypropylene homopolymer/random copolymer with ethylene and more propylene is limiting only in the sense of the final rendered structure.

26. Regarding claim 5, neither Mamish et al. (*column 9, see plastic film composition table*) nor Hase et al. (*columns 6 and 7, tables I and II*) use red phosphorous in the compositions.

27. Regarding claim 6, Mamish et al. teaches that the winding film (*plastic 16*) has a layer of adhesive (*layer of pressure sensitive adhesive 12*) on one side (*Fig. 1, column 4, lines 57-59*). The adhesive may be based on polyisoprene or polyacrylate (*column 3, lines 58-62*). Mamish et al. also describes the use of a corona treatment before the application of the adhesive layer to the film, which formed a primer layer of treated surface material that is more receptive to adhesive coating (*column 10, lines 7-8*). Per Mamish et al., the bond strength to steel is 2.73-7.11 N/cm (25-65 oz/inch), and the unwind force is 1.64-6.56 N/cm (15-60 oz/inch) (*column 3, lines 44-48*). Both of these disclosed ranges overlap those claimed by applicant. Because the adhesives are of the same composition of those claimed by applicant, are applied in the same manner as by applicant, have the same bond strength to steel, and the same unwind force, it follows that although the properties of applied density (10 to 40 g/m²) and holding power are not

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disclosed, it would necessarily be applied in this amount for the properties to be the same.

28. Regarding claim 7, Mamish et al. teaches that the pressure sensitive adhesive includes no solvents (*see table of adhesive composition, column 12*). The limitation of production of the adhesive is deemed to be a product by process limitation and is not further limiting over the prior art, because the structure of Mamish et al. is the same. Further, Mamish et al. teaches that a corona pretreatment was used before application of the adhesive (*column 10, lines 7-8*).

29. Regarding claim 8, Hase et al. teaches that for the winding film, a flame retardant filler (*metal hydroxides as flame-resistant agents, column 4, lines 52-54*) should be added in the amount of 30-200 parts by weight relative 100 parts by weight of polymeric material (*column 4, lines 58-61*). This overlaps applicant's claimed range of 70-200 phr. Hase et al. also teaches that the metal hydroxide can be a magnesium hydroxide (*column 4, line 55*).

30. Regarding claim 10, Mamish et al. teaches that the film structure is plasticizer free and therefore would have a fogging number greater than 90% (*low fogging, column 6, lines 37*).

31. Regarding claim 14, Mamish et al. teaches that winding film of the invention may be used by bundling (*securing bundles, column 1, line 20*).

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32. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,355,344 to Mamish et al. in view of USPN 6,200,679 to Hase et al. as applied above, and further in view of USPN 5,830,940 to Nakamura et al.

33. Mamish et al. in view of Hase et al. teaches that for the winding film, a black colorant (*Black Concentrate CM 92049*) may be added to the composition (*column 9, plastic film composition table*). However, it is unclear what this colorant is, since it simply referred to by its trade name and no formulation is given.

34. Nakamura et al. teaches that carbon black may be added in the amount of 0.01-10 parts by weight, based on 100 parts by weight of polymer in the composition (*column 5, lines 55-60*). This overlaps applicant's claimed range. Further, Nakamura et al. teaches that in the interest of mechanical strength, the added carbon black should have a pH of 5-9 (*column 12, lines 55-61*).

35. Nakamura et al. is directed to shaped articles that comprise crystalline polymers that have excellent thermal and chemical stability (*column 1, lines 13-20*). This type of structure and demands are identical to those of Mamish et al. in view of Hase et al., because the winding films are also expected have good thermal (*to resist the heat of electrical equipment*) and chemical (*to resist oils and solvents present in cars*) stability, having low release of decomposition gasses (*known as fogging in the auto industry, as discussed above*). Because the disclosure of Nakamura et al. is directed to solving the same problems as Mamish et al. and Hase et al., using similar materials (*column 3, lines 28-55*), it can be said to be analogous art.

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36. The addition of colorants are often required to meet requirements of appearance, either for regulatory reasons or pure aesthetics. Carbon black is a preferred colorant, not only for its appearance, but because it imparts improved mechanical durability, which Nakamura et al. discloses as above. Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute the carbon black in the amount and pH specified by Nakamura et al. for the "black concentrate" colorant of Mamish et al. in order to improve both the appearance and mechanical properties of the resultant winding film.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICHOLAS KOKKINOS whose telephone number is (571) 270-7384. The examiner can normally be reached on Monday-Thursday 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nicholas Kokkinos/
Examiner, Art Unit 1794
29 March 2009

/JENNIFER MCNEIL/

Supervisory Patent Examiner, Art Unit 1794